

FEATURES

The 540 V-PORT+SA-PCU ball valve is designed for flow control in unloaded industrial fluid lines up to a pressure of 40 bar. The 60° "V" machining allows the valve to be used as a regulator. The split-body, full bore 540 valve is CE, ATEX, fire safety, SIL and ISO 15848-1 approved for fugitive emissions. Overall dimensions are standardized to EN 558-1 Series 27 The ISO 5211 pad enables mounting of the SA-PCU control actuator. This provides a simple interface with process control. It is ideally suited to both indoor and outdoor industrial use.

AVAILABLE MODELS

540 AIS: carbon steel body PN40 DN15 to 32.

540 IIS: body in stainless steel PN40 DN15 to 32.

Flanged connections PN16/40 RF.

Supply voltages: 24Vca-cc and 230Vca.

Control signal: 0-10V, 2-10V, 0-20mA, 4-20mA.



3.1
Cert.

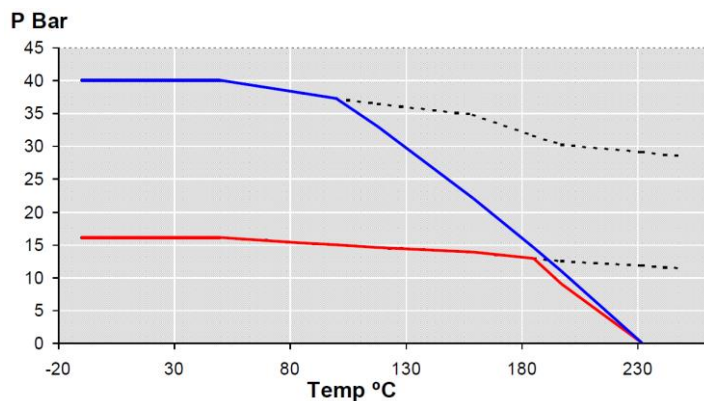
TA
LUFT

IP
67



LIMITS OF USE

Max. allowable pressure: (PS)	40 bar (20°C)
Min./max. allowable temperature: (TS)	acier : -20° / +260°C inox : -50°C / +260°C
Ingress Protection	IP 67
Room temperature	- 20°C / + 70°C
Service factor	S2 – 70%



--- DN15 to DN40 PN40



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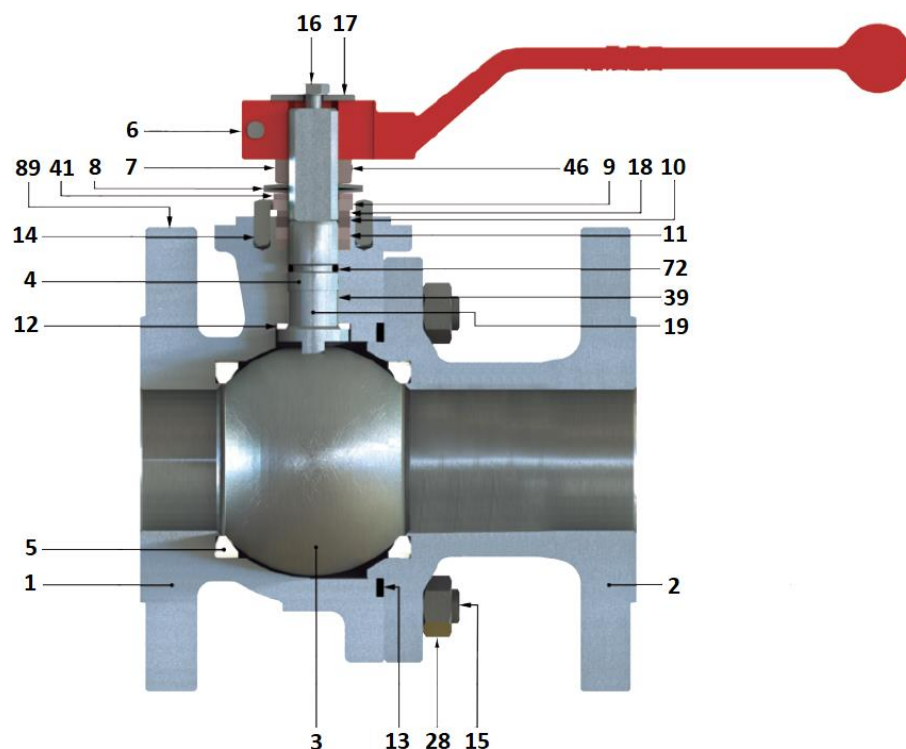
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		Rev.	02
		Date	02/2025

ROBINETS 540 V-PORT ACIER/INOX + SERVOMOTEUR ELECTRIQUE SA PCU

DIRECTIVES AND MANUFACTURING STANDARDS

OBJECT	Standard	NB	OBJECT	Standard
PED Directive 14/68	DN 15 and 20: not subject	BV 0062	Final test	EN 12266
	DN 25 to 40: category III		Material certificate	EN 10204
Design	EN 1983 et ISO 17292		Steel grades	EN 1503-1
Size	EN 12516-1		Face to face	EN 558-1 série 27
Flange dimensions	EN 1092-1		Fugitive emissions	EN 15848-1
Fire safe	ISO 10497 (2004)		Actuator	EN 15714-2
Motor connection	ISO 5211			

CONSTRUCTION

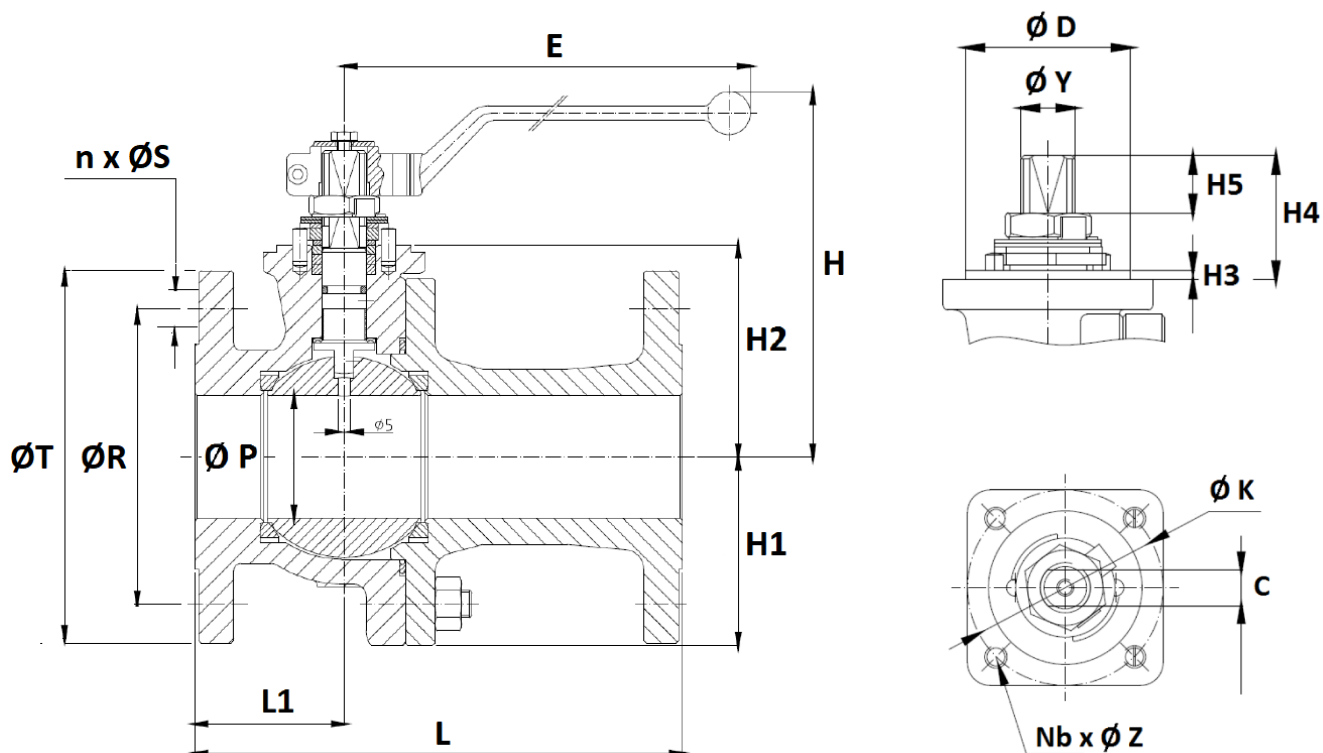


N°	Name	516/540 AIS	516/540 IIS	N°	Name	516/540 AIS	516/540 IIS
1	Body	Steel 1.0619	St steel 1.4408	14	Stop pin	Carbon steel	St steel
2	Ends	Steel 1.0619	St steel 1.4408	15	Tie-bolt	DIN 933 A4-70	
3	Ball	A 351 Gr. CF8M		16	Screw	DIN 933 A4-70	
4	Stem	St steel A 479 Tp.316		17	Washer	Galvanized steel	AISI 304
5	Body gasket	STANSIT : PTFE + 50% SS		18	Lock washer	PTFE+25% GF	
6	Handle	Nodular cast iron		19	Antistatic device	St steel	
7	Gland nut	St steel AISI 303		28	Nut	DIN 933 A4-70	
8	Washer Belleville	Steel	Steel ENP	39	Stem o-ring	STANSIT	
9	Stop plate	Steel	St steel 304	41	Spacer	Carbon steel	AISI 304
10	Apacer	AISI 303	AISI 316	46	Washer	AISI 304	
11	Packing gland	Graphite		72	O-ring	FKM	
12	Anti-friction ring	PTFE+25% GF		89	ID plate	St steel	
13	Body gasket	St steel 316L + PTFE + graphite					

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DIMENSIONS (mm) AND WEIGHT (kg)



DN	15	20	25	32
ØP	15	20	25	32
L	115	120	125	130
L1	53	52	48,5	54
E	164	164	164	210
H	111	118	130	131
H1	-	-	-	-
H2	46	53	58	66,5
H3	1,5	1,5	1,5	1,5
H4	11,2	14,7	22,7	32
H5	5	8,5	9,5	13
C	9	9	9	12
ØY	M12	M12	M12	M16
ØD	35	35	35	35
ØK	50	50	50	50
ISO	F05	F05	F05	F05
ØR	65	75	85	100
n x ØS	4x14	4x14	4x14	4x18
ØT	95	105	115	140
Weight	2.8	3.6	5	7

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ROBINETS 540 V-PORT ACIER/INOX + SERVOMOTEUR ELECTRIQUE SA PCU

COEFFICIENTS Kv V-PORT 60°

Kv value depending on the valve opening percentage

DN	0%	15%	20%	30%	40%	50%	60%	70%	80%	90%	100%
15	0	0,1	0,1	0,2	0,3	0,4	0,7	0,9	2,8	3,8	5,2
20	0	0,1	0,2	0,6	0,9	1,5	2,4	3,4	5,6	7,8	10,3
25	0	0,2	0,3	0,9	1,6	2,9	4,6	6,8	10,6	13,2	18,1
32	0	0,2	0,5	1,6	2,6	4,7	8,2	11,0	16,4	22,4	33,6

SA-PCU ELECTRIC REGULATING ACTUATOR

The SA-PCU motorization offered as standard must be understood as:

- Actuator with IP67 epoxy-coated aluminium housing and steel gearbox.
- Safety factor at least 1.3 relative to the valve's nominal torque.
- Upstream/downstream pressure difference $\Delta P=10$ bar max.

The actuator is mounted with a stainless steel bracket and coupler according to the EN 15081.

DN	Actuator	Power 230V ca	Intensity 230V ca	Power 24Vcc	Intensity 24V CA-CC	Time*	Standard actuator equipment
15	SA05-PCU	6 W	0,24 A	15 W	1,8 mA	17 s	Protection class2 adjustable limit switches 2 dry auxiliary contacts 2W anti-condensation resistor Thermal motor protection Key-operated manual override Backlit position indicator Electrical connection: 2 P.E. M20x1.5
20	SA05-PCU	6 W	0,24 A	15 W	1,8 mA	17 s	
25	SA05-PCU	6 W	0,24 A	15 W	1,8 mA	17 s	
32	SA05-PCU	6 W	0,24 A	15 W	1,8 mA	17 s	
40		See 540 + NA-PCU					
50							
65							
80							
100							

For other service conditions, please contact us.

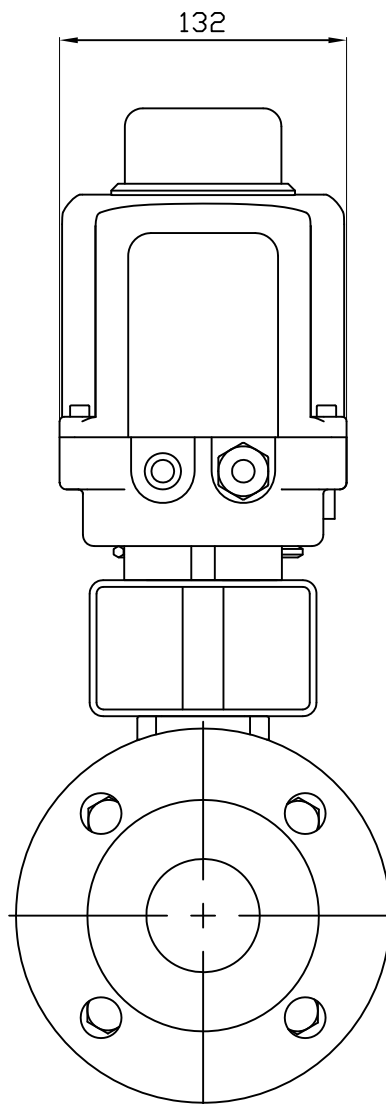
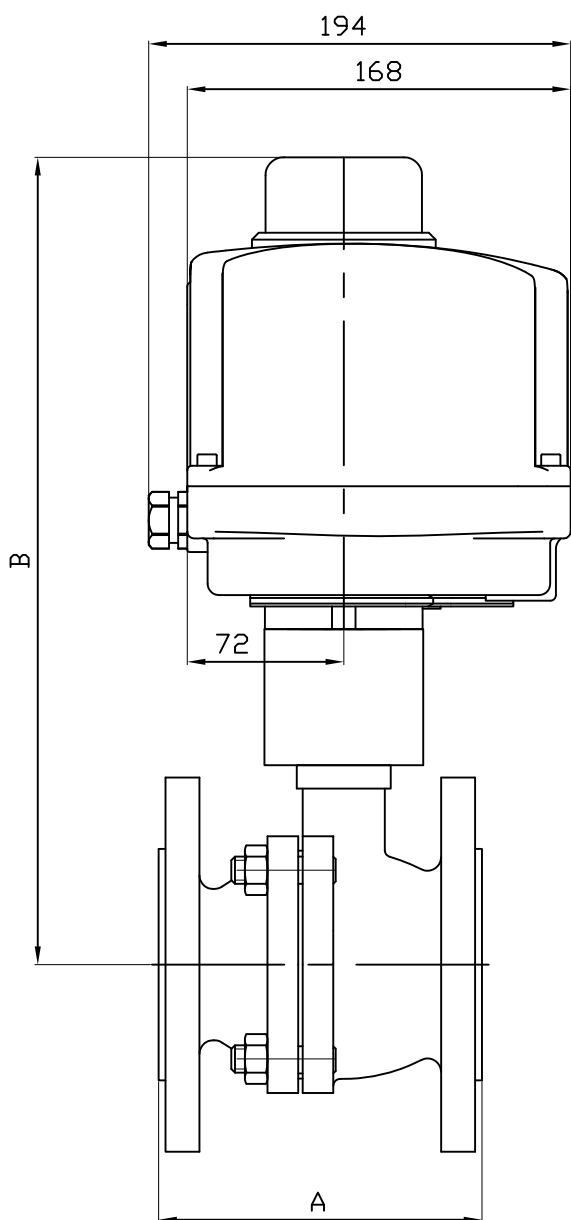
* Indicative time for opening or closing of the motor uncharged.

CONTROL SIGNALS

Input signal	Return signal
0 - 5 V	4 - 20 mA
0 - 10 V	
2 - 10 V	
1 - 5 V	
4 - 20 mA	

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DN	15	20	25	32
A	115	120	125	130
B	314	321	326	334.5
POIDS KG	7.36	7.36	9.54	11.57

Informations données à titre indicatif et sous réserve de modifications éventuelles
Data subject to alteration

Ech: /	Date :18/11/2019	Dessiné par : E.D.	Tolérances générales : +/- 0.2	Modifications	Date	REV.
ROBINET A TOURNANT SHERIQUE 540JC V-PORT/BALL VALVE 540JC V-PORT + SERVOMOTEUR SA05 PCU/ELECTRICAL ACTUATOR SA05 PCU				Matière :		
				Poids (Kg) :		
				Traitement : SANS		
				Plan n° Ens 1407		

45, Rue du Ruisseau
38297 SAINT QUENTIN FALLAVIER

SA 05 - SA 05X + PCU ELECTRIC ACTUATOR

FEATURES

The electric actuator SA 05 PCU is intended for the motorization of 1/4 turn valves with a regulating function. The operating torque is 50 Nm. Of compact and sturdy construction with aluminum case epoxy IP67, The actuator SA is particularly well adapted to the motorization of painted ball and butterfly valves installed in workshop or outside. The SA 05 PCU is provided with a manual device by key and with a 3D visual indicator of position. Functioning 3 points. Proportional control 4-20mA. it is in accordance with the standard EN 15714-2. The SA-X version can be installed in an hazardous area.

AVAILABLE MODELS

Voltages of supply : 230V CA (50-60Hz), 24V CA/CC

Regulation board: 0-10 V / 2-10 V / 0-20 mA / 4-20 mA / Copy 4-20 mA.

LIMITS OF USE

Indication of protection	IP 67	
Room temperature	SA05 PCU	SA05X PCU
	- 20°C / +55°C	- 20°C / +70°C
Duty Factor	S2 : 15mn - S4 : 50%	



ATEX APPROVAL

Protection mode	"d" according to the EN 60079-1 standard
Category of material	2
Operation zones	1G and 2G
Marking	II 2 G Ex d IIB T4 (ON KEMA no. 0344)



SA05 + PCU

SA05X + PCU



MECHANICAL CHARACTERISTICS

Gear	Steel cogs handled
Torque	50 Nm
Angle of rotation	90° +/- 5°
Declutch	Without
Manual override	By key

Actuator	SA05 / SA05X + PCU	
Voltage	230V CA	24V CA/CC
Torque (Nm)	50	
Time of operation (s)	17	17
ISO 5211	F03/F05/F07 Star 14	



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SA 05 - SA 05X + PCU ELECTRIC ACTUATOR

ELECTRIC CHARACTERISTICS

Protection of the motor	Thermal regulation	Resistance heater	5W heater
Limit swithes	2 adjustable swithes	Electric connecting	2 x P.E. M20x1.5
Auxiliary swithes	2 adjustable dry swithes		

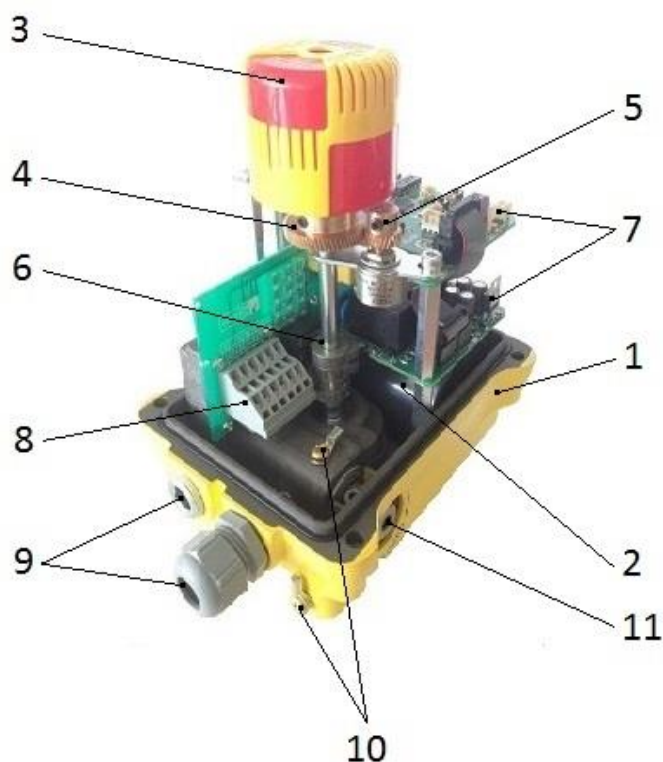
Actuator	SA05 / SA05X + PCU	
Voltages	230V CA	24V CA/CC
Power consumption (W)	6 W	15 W
Intensity (A)	0,23	1,8

SIGNALS OF REGULATION

Input signals	Signals of copy
0 - 5 V	4 - 20 mA
0 - 10 V	
2 - 10 V	
1 - 5 V	
4 - 20 mA	

CONSTRUCTION

N°	Item
1	Housing
2	Electric motor
3	Position indicator
4	Wheel
5	Potentiometer of copy
6	Cams
7	Regulation PCB
8	Terminal block
9	Cables entrances
10	Grounding
11	Manual override



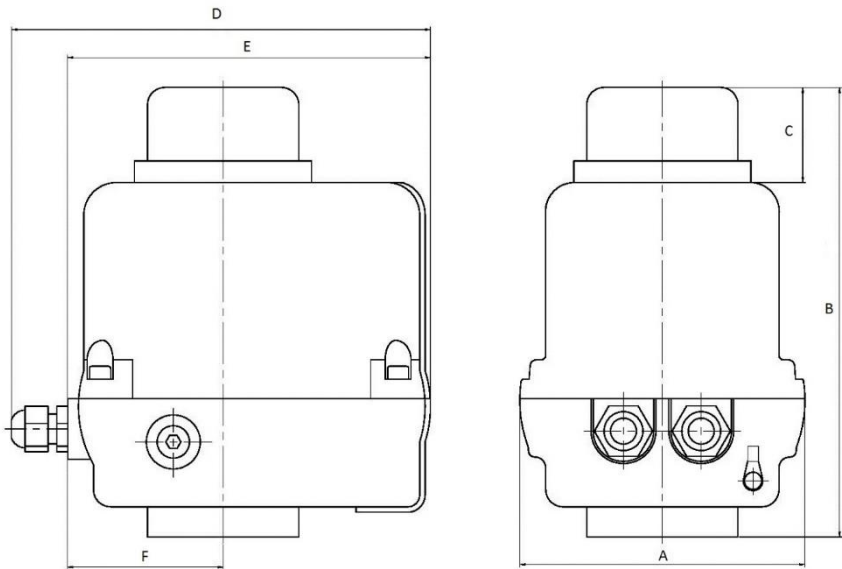
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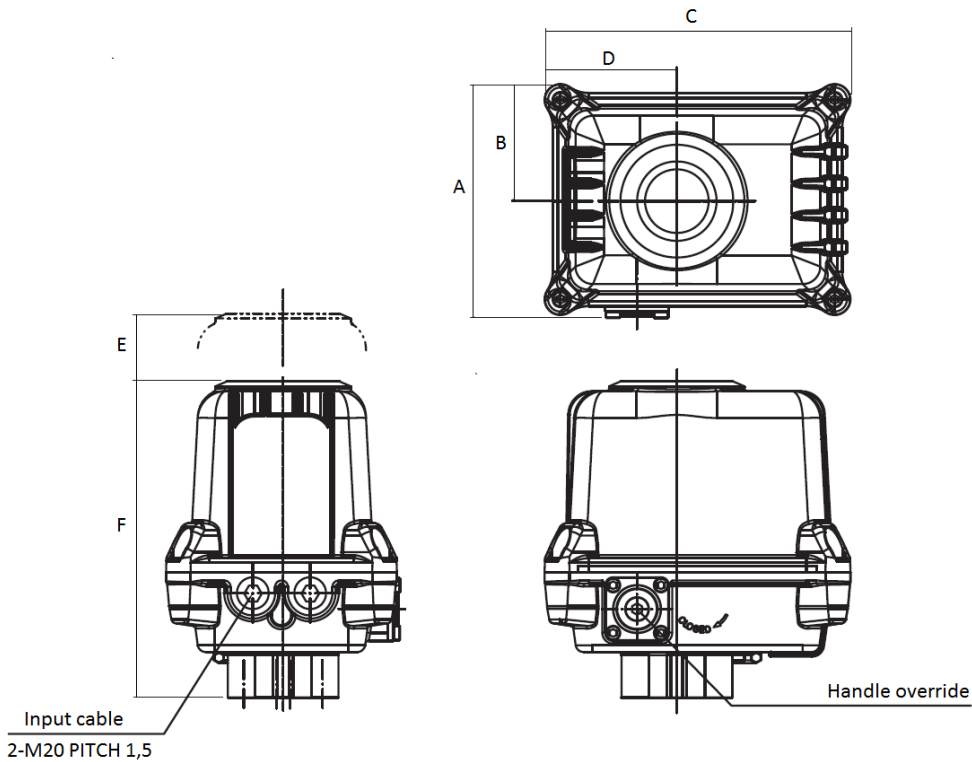
SA 05 - SA 05X + PCU ELECTRIC ACTUATOR

DIMENSIONS (mm) AND WEIGHT (Kg)

Dimensions (mm)	A	B	C	D	E	F	Weight (Kg)
SA05 + PCU	132	208	44	194	168	72	4



Dimensions (mm)	A	B	C	D	E	F	Weight (Kg)
SA05X + PCU	147	73	193	83	100	199	5



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SA 05 - SA 05X + PCU ELECTRIC ACTUATOR

SPARE PARTS

SA05 / SA05X + PCU Electric actuator	
Gear box	
Printed circuit board	
Electrical motor	
Transformer relay printed circuit board	
All printed circuit board kit	
https://www.sectoriel.com/fr/sa05pcu-servomoteur-electrique-de-regulation-1-4-tour-50nm-ip67.html	

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SA 05 - SA 05X + PCU ELECTRIC ACTUATOR

ASSEMBLING AND MAINTENANCE INSTRUCTIONS



SA05 + PCU



SA05X + PCU



1. DESCRIPTION

- 1.1 Electric actuator for motorising 90° turn valves.
- 1.2 The full features of this device are given in sheets FT23050.
- 1.3 Before operating this device, read the present instructions carefully.

2. GUARANTEE

- 2.1 Before any contact with our services, identify the type of actuator.
- 2.2 SECTORIEL actuators have a 12-month guarantee as of the delivery date. The parts recognized as defective by an assessment at our facility, will be replaced at our expense. Complaints generated by incorrect use or a modification of the actuator cannot be taken into account.

3. VERIFICATIONS AND ACCEPTANCE

- 3.1 At acceptance, check that:
 - the packaging is in good condition;
 - the actuator is as ordered;
 - the equipment is not damaged.
- 3.2 It is recommended to install the actuator as soon as accepted and not to leave it unused. If the equipment has to be stored, it has to be in a dry place protected from weather.

4. PRECAUTIONS FOR OPERATION

- 4.1 Before installing, make sure that the installation is completely depressurized and brought to ambient temperature.
- 4.2 Do not install this actuator in a zone classified as explosive.
- 4.3 The protection class of the actuator is IP67 for indoors or outdoors installation. Do not install this actuator in a marine environment and do not immerse it.
- 4.4 The actuator must not be electrically powered during the installation and maintenance of the valve on the pipework, and of the actuator on the valve
- 4.5 Before proceeding to the electrical connection, check the supply voltage of the actuator.
- 4.6 Do not mount the actuator in series or in parallel with other electrical motors. If need be, use relays.
- 4.7 Do not mount the actuator on valves with higher torque than the nominal torque of the actuator.

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SA 05 - SA 05X + PCU ELECTRIC ACTUATOR

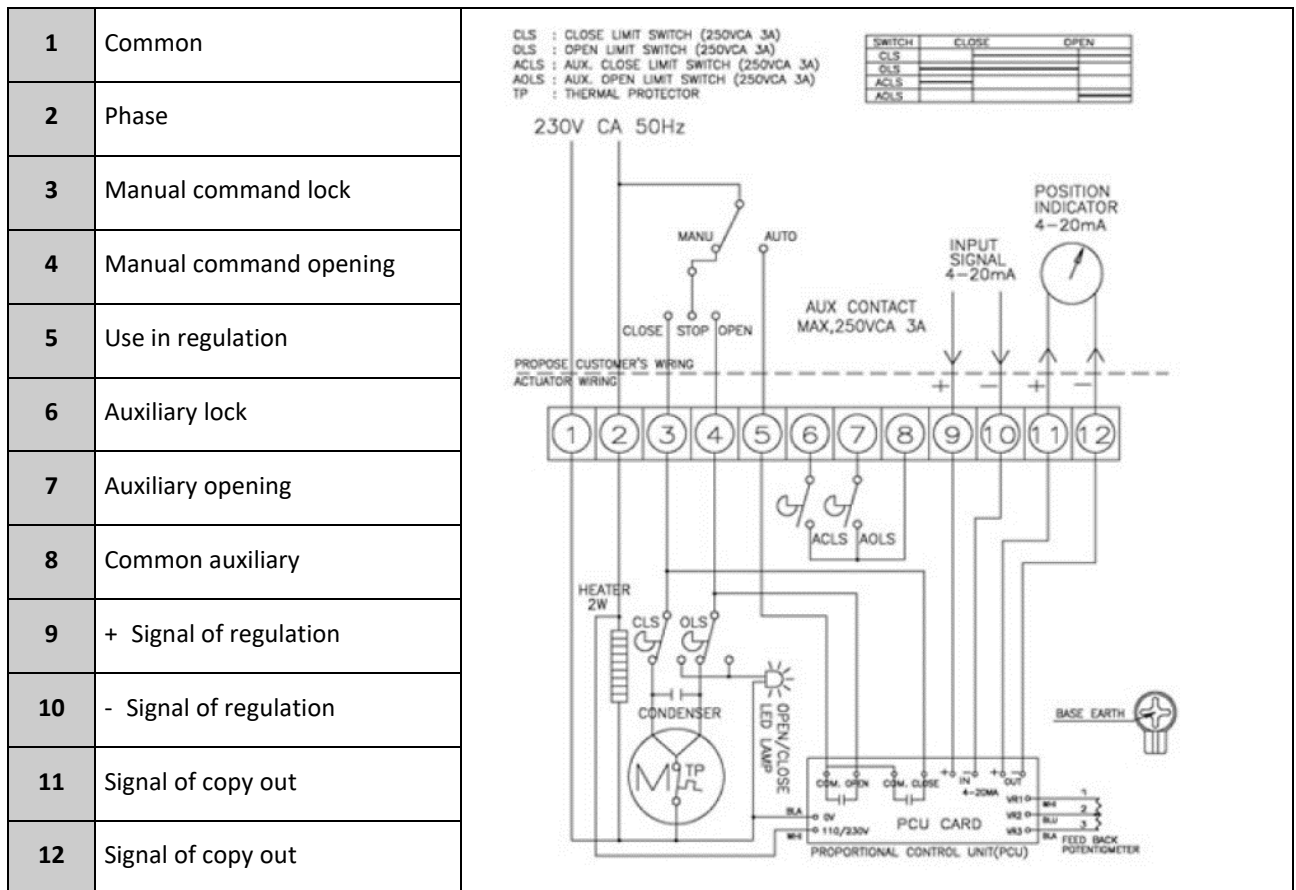
5. INSTALLATION AND OPERATION

- 5.1 Install the actuator on the valve (already done for units assembled in our workshops)
- 5.2 Perform the electrical wiring as shown in the diagram below.
- 5.3 Adjust the switch stops (already done for units assembled in our workshops).
- 5.4 View the valve's movement using the indicator light on the cover.
- 5.5 SA05 / SA05X PCU actuator: to actuate the handle override, first disconnect the electrical power supply, then turn the hollow hex-head screw with an Allen key.

6. SWITCH SETTING

- 6.1 The cams are attached to the drive stem.
- 6.2 Clockwise rotation = valve closing. The micro-switch stops the actuator.
- 6.3 Anti-clockwise rotation = valve opening. The micro-switch stops the actuator.

WIRING DIAGRAM 230V CA 50Hz

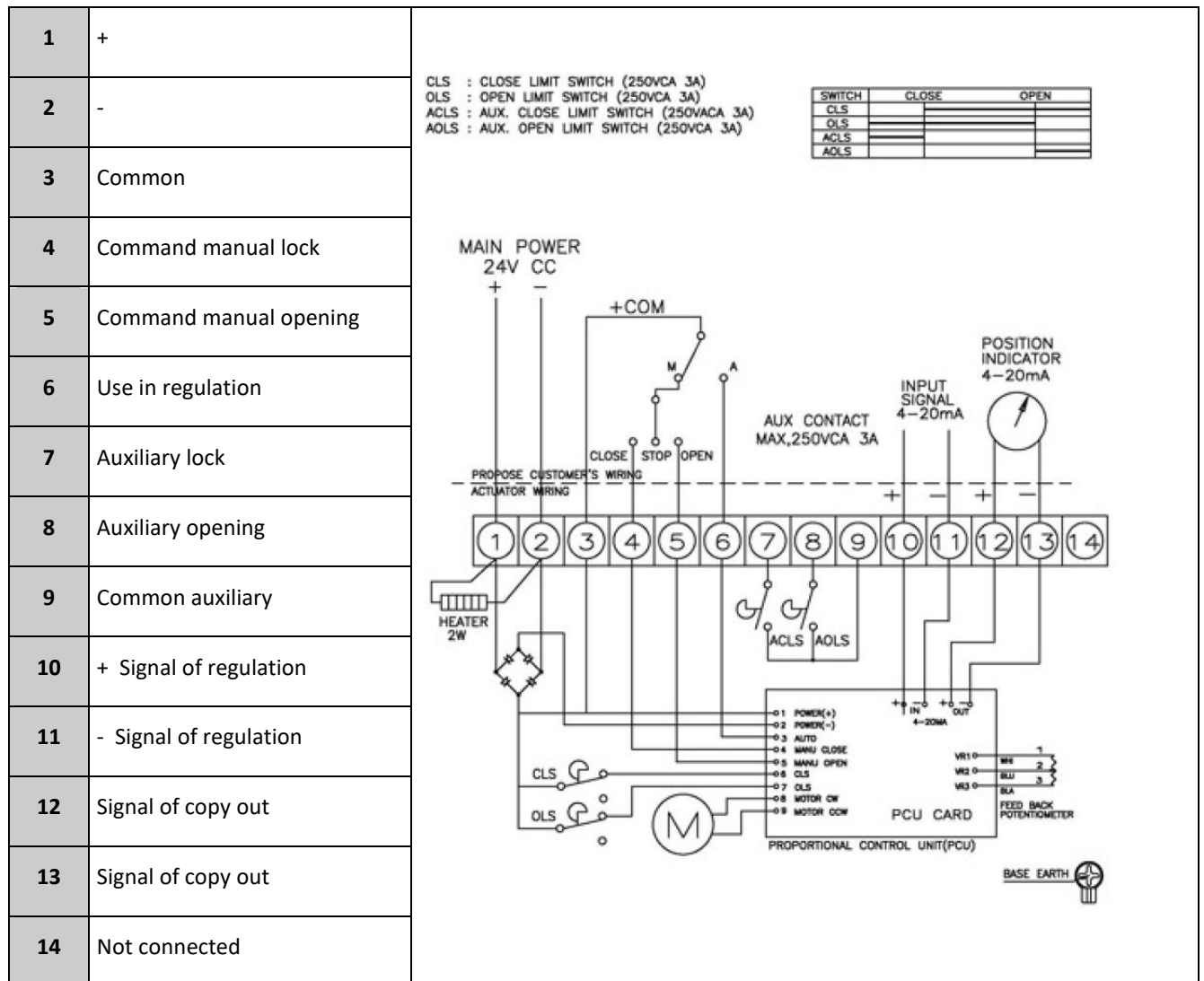


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SA 05 - SA 05X + PCU ELECTRIC ACTUATOR

WIRING DIAGRAM 24V CA/CC



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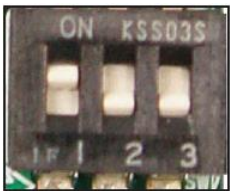
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SA 05 - SA 05X + PCU ELECTRIC ACTUATOR

PCU BOARD SPECIFICATION



Name	Spec.
ZERO	Close manual control button / Input module button
SPAN	Open manual control button / Input module button
ASCN	AUTO SCAN BUTTON (ACTUATOR automatic control button) delivered from the factory the resistance value of potentiometer may can be changed if the user modifies its limit setting. Please make sure to press the autoscan button for at least 2 seconds before operating proportional control.

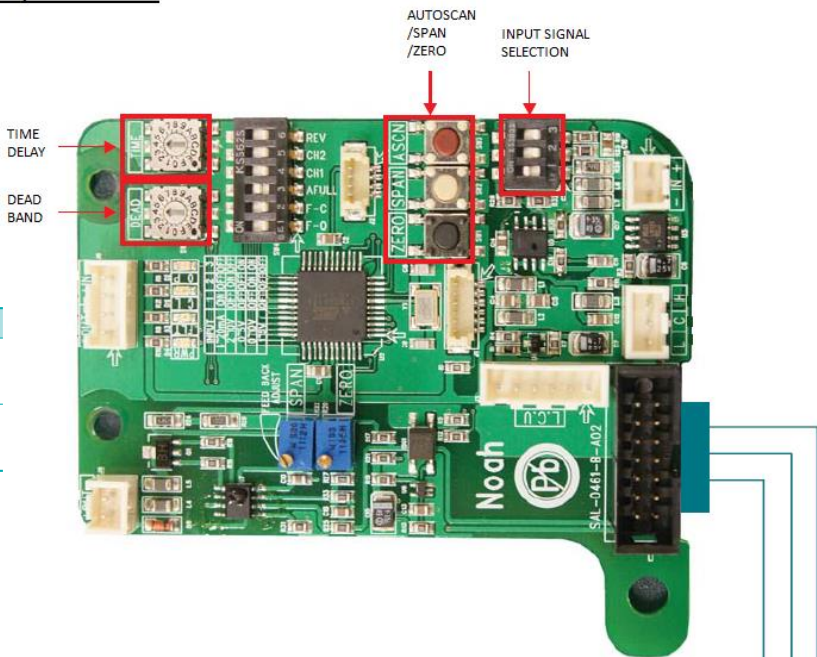


INPUT	S/W	1	2	3
4 – 20mA		ON	OFF	OFF
2 – 10V		OFF	ON	OFF
0 – 5V		OFF	OFF	ON
0 – 10V		OFF	ON	ON
1 – 5V		OFF	OFF	OFF

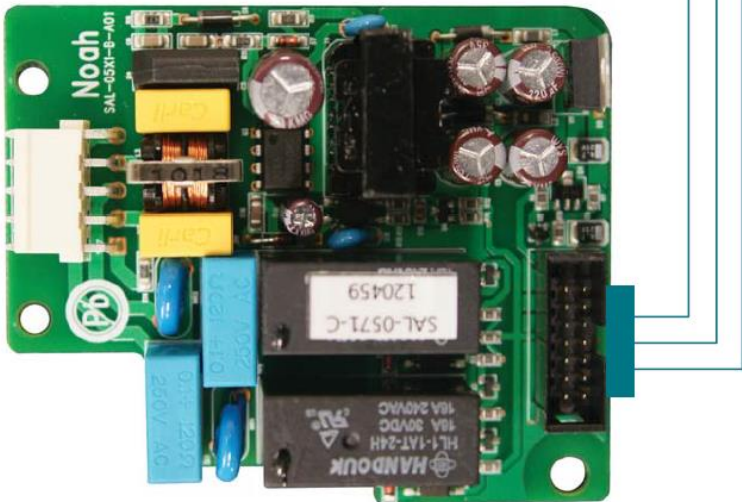
PCU Board specification



Name	Spec.
DEAD BAND	Mechanical steps at least (0,2ma)
TIME DELAY	Modulating starting time (1sec)



PCU Board



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